

Grand Challenge Overview and Objectives

COL NEGRON: Let me focus on the Challenge a little bit. Let me get you back to why we are here. From the big picture point of view, you have two briefings before the break. My brief, which is just an overall why we are here, and then Sal Fish, CO, from SCORE International, will describe the route, and then we will take a break of about 15 minutes.

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The purpose of my brief here is really to focus on the goals and objectives, but more importantly, you know, why we are pursuing the event. A lot of discussion right now about the Challenge, but the critical thing is the technology is not out there. We have got to pursue that technology.

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More importantly for me, from the military point of view, is as Dr. Tether mentioned, we are trying to inspire the innovators out there. We are trying to capture the nontraditional DoD competitors. We are trying to grab the people, and my description last night is that either that mechanic in the garage or the high school student working on that software, whose mother is banging on the door, saying

1 come eat, come, you know, those are the guys we are trying to
2 attract. We are trying to attract the independent guys, the
3 small business people, light a fire under the various
4 corporations. So, those are the folks we are trying to get
5 to.

6 What we get out of it is the technology. That is
7 what we are really going to push, but most importantly, in my
8 opinion, in order to win this, the teams have to collect a
9 plethora of information from the technical skills.

10 It's teaming that is critical, who you get on your
11 team, what they do for you on your team is critical. More
12 importantly, it is grabbing these independent agents and
13 performing the Challenge by constructing the vehicle that can
14 go over all the obstacles, and we are going to talk about
15 those obstacles here in a minute.

16 The other thing is integration of technology. We
17 are really after the pursuit of the technology. A lot of
18 questions last night, can we do it? Let's put it this way.
19 The Challenge will be conducted 13 March 04. That will
20 happen.

21 Will a vehicle win on that day? I don't know. But
22 I am sure that it will advance autonomous ground operations

1 just by the technology.

2 Next slide.

3 I will foot-stomp that again. I mean the direct
4 pay-off for the nation is we get the technology. It really
5 pushes autonomous operation. We are looking for a full
6 system. As Scott mentioned, we will develop key critical
7 components. Each vehicle will probably have one or two
8 pieces there that DARPA would be looking for, the military is
9 looking for, the commercial market is looking for.

10 This is all part of this challenge, this will
11 happen. Critical pieces capture the imagination. It is
12 looking at the enthusiast, making the public aware of what is
13 possible. We will do this. It's Lindberg crossing the
14 Atlantic.

15 You know, at one time, that was just a big ocean
16 out there. Eventually, Lindberg crossed the Atlantic and
17 here is commercial aviation. That is what we are looking for
18 here.

19 The next thing is to push the talent. We are
20 really trying to push the talent. We are trying to
21 cultivate, we are trying to mine those nuggets out there.

22 Next slide.

1 This is our timeline and we will talk about it in
2 greater detail in the follow-on brief, but the critical piece
3 for us more than anything else is we have got 13 months. As
4 I said earlier, I have got folks out here that say, hey, I
5 have the vehicle already and I can do this, another says,
6 Jose, this is going to be a tough challenge, the bar is too
7 high.

8 Well, if the bar is too high, that's a DARPA
9 problem, okay, and that's the reason you are asked to
10 participate in this, and we are going after those particular
11 technologies, and we will talk about this timeline.

12 Next slide.

13 The critical thing, characteristics of the vehicle,
14 100 percent autonomous. You are going to travel on a wide
15 variety of terrain, and, of course, speed is really a
16 critical discriminator. We are going to conduct the event,
17 it is going to going to be sunrise to sunset.

18 There is a 12-hour block here in March. We are
19 shortening that. You know, I would like a two-hour kind of a
20 pad for myself, so within 10 hours from L.A. to Vegas is a
21 challenge, I understand that. We will go over the
22 restrictions here with the rules and the route, and we will

1 talk about that a little bit more.

2 Next slide.

3 Those are the type of technology we are looking
4 for. A lot of questions about what does mobility mean, what
5 does the sensing mean, what is behavior, how do you define
6 that, and that's what we are trying to do. The bottom line
7 is it's got to be to win the award, okay, it has got to be a
8 fully autonomous vehicle, that's what we are looking for.
9 The bar is set high, there is no question about that.

10 Next slide.

11 We have already talked about that, start near L.A.
12 and finish at Vegas. We will talk a little bit more about
13 the procedures and how do we go from point A to point B a
14 little bit during the presentations.

15 Next slide.

16 Then, finally, I will tell you, I could not do this
17 event without the following folks helping me especially my
18 mentor, Dr. Tether. Going through the list here, I would
19 like for each one of these individuals to please stand up.

20 If you have questions, most of us will have the red
21 or at least staff on our little name tag, please come ask us.
22 They are scattered through the forefront here. So, if I can

1 get the DARPA team on the Grand Challenge, please stand up
2 and let the folks look at you, and I appreciate if you guys
3 go ask them the questions. Okay?

4 All right. Next slide.

5 We started, you know, a year ago, this was just, as
6 the boss said, a bunch of us around the table just trying to
7 figure out what we are going to do, and we said, okay, from
8 Anaheim to Vegas.

9 The next briefer is Sal Fish. He will talk about
10 the route. We haven't finalized the route. There are lots
11 of possibilities out there. We are scoping the area. We are
12 trying to stay within the boundaries. There are local,
13 state, and national laws that we have got to be aware of, and
14 those are big.

15 Finally, the last thing we have got to do is, of
16 course, the Environmental Protection Acts out here are pretty
17 stringent, but we think we have got a way to get around that.

18 Okay. My boss says to comply with. Well, I always comply
19 with it.

20 Thanks a lot.